

Message from South

Africa Dear Jan — in the April 1980 issue, which was devoted to Automotive Electronics, Elektor published an 'Intelligent Windscreen Wiper Delay' circuit. This used about 8 ICs, not least of which was a 21L02 memory! I built two of these over the years, and it was quite the cleverest and most useful device of its type I have ever encountered. The only change I made was to extend the delay cycle to up to about 4 minutes — very handy in my country where we don't get a lot of rain! Unhappily, many of the devices needed are no longer available, not least the 21L02. Even getting the original ones was a problem — I had to go all the way to a side-street electronics shop in New York City to find them! I know you published a sort of update a few years back, and I have the article in my files somewhere, but as I recall it didn't do quite what the original had done. And in any case it too is probably out of date by now. So my question is this — is it possible that you might come up with a 'modern' version of the 1980 design? It can probably all be done with a single PIC IC these days, for all I know!

I think the new Elektor style and layout is just great! Not that there was much wrong with the old one.

Chris Graham
(South Africa)

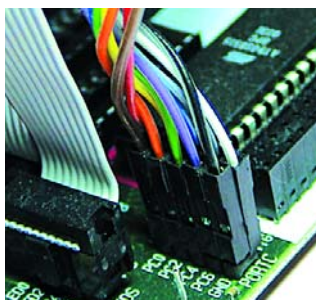
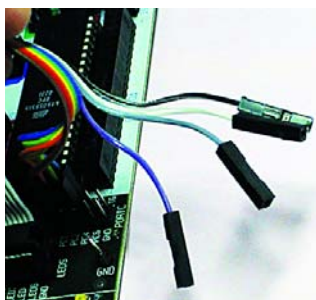
It's wonderful to see how readers of this magazine cherish designs published so long ago they are no longer remembered by anyone on our current staff.

A possible source for (long obsolete) RAM chips like the 21L02 are the spare parts suppliers serving the vintage pinball machine and arcade game communities.

I'm sure the Internet will enable you to get in touch with a trader. Your request for a PIC based windscreen wiper control has been copied into our design lab. Sometime next year we will publish an issue focusing on automotive electronics and maybe a suitable design is ready by then.

Connector parts

Dear Sir — I've been an avid reader of Elektor since I was a young lad the mid 70's. I've followed the changes in style and presentation over the years and must agree that the present new look is an improvement, if one can improve on perfection! The two photos of some single wire connectors illustrate the problem I am having. What I am trying to find is single connectors like those in the two photos, on a 0.1" pitch. These can be connected to flying leads and plugged up to 0.1" headers as illustrated in any combination so desired. I know they exist, since most PC's use them to connect case front switches, USB ports and



other case hardware. But try as I might, and I've phoned quite a few manufacturers as well as the usual suppliers (Farnell, RS, Maplin) I can not find these receptacles in single format. The ones featured in the photos were made by cutting up multiway blocks and filing them down, a time (and nail) consuming task.

Do you know where on earth I can get my hands on some of these. I know of several other users of Atmel boards who would like some as well. Any ideas, please?

Richard Austin

Readers having information that could help Mr. Austin are requested to contact the Editor. Meanwhile, Luc Lemmens from the Elektor lab tells me single 0.1-inch pitch receptacles can be cut off strips of the type shown in the photograph.



As there is no clamping mechanism, the wire end needs to be soldered and then protected using heat shrink sleeving.

Probing around

Dear Editor — recently I had a problem here at work, monitoring high frequency digital quartz clock oscillators. I needed to adjust each crystal loading capacitance and absorb the board strays to bring the frequency in tolerance. Some of our crystals are accurate to 15 ppm and the highest frequency is 54 MHz.

Without thinking enough I had used a Tektronix 500-MHz, 10x passive scope probe feeding an 8-digit 200-MHz frequency counter. For accuracy I used a Quartzlock Off-Air standard to give me a precision 10 MHz reference source for the counter traceable to NPL. However I didn't spot the 8-pF loading of the scope probe! Consequently my results did not agree with our RF team who used their Agilent 89441A Vector Signal Analyser with a 'sniffer lead' held in the vicinity of each clock circuit. Hence their loading of each oscillator was negligible, resulting in my readings being around 20 ppm too low! Problem resolved by using a new Tektronix TDS57704B, 4-channel digital scope. This gear happened to be in the lab on evaluation. Tektronix have wisely brought out one of the 4-channel analogue signals (prior to digitisation) to the front panel. I was then able to use one of their active FET probes and connect the frequency meter to the scope analogue output. Hence around £ 40k of active probe!

This resulted in the loading error compared to our RF team's measurement closing to around 5 ppm worse case. An alternative to tying up the 4-channel digital scope was to use an Agilent 3-GHz active RF probe, adding an N-type to BNC adapter to its rear and power it from any Agilent spectrum analyser. At this point I started thinking off build or buy for a stand alone very low capacitance active probe. I found few on the market with less than 1 pF input capacitance! The ones that are, are made by Tektronix, LeCroy etc. for their own scopes, designed to plug into a specialised

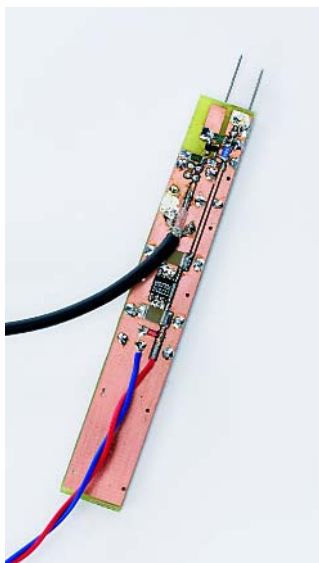
front panel connector which provides signal and probe power. Tektronix have discontinued making a bench supply to use their probes stand alone. Sigh!

Imagine my amusement then, in finding David Jewsbury's article last Saturday ('Poor Man's 1-GHz Probe', October 2004, Ed.), while perusing the few electronics mags in WHSmith's.

I was just beginning to think of reaching for my soldering iron to grow my own low cap probe. I will build his circuit with a follower second stage as I don't need the bandwidth but just the low input capacitance.

All the best with your excellent magazine.

Alan Bate



Thanks Alan for this example of how a complex problem is tackled in your work environment. Here's proof that the subtitle with our article: 'DIY saves a pretty penny' was spot on.

Happy Birthday

Dear Sirs — I have been reading Elektor from the start and have found your maga-

zine to be a wonderful font of knowledge. I am sure I am not alone in wanting to thank you, for helping me over the years with design ideas etc. I have every edition from about 1980 onwards (squirrels in the loft destroyed my earlier volumes). I wondered what joys you will be bringing us on your thirtieth birthday. Happy Birthday Elektor!

Mark Scotford (Spain)

Readers wishing to part with pre-1980 copies of Elektor magazine, or complete year volumes please contact the Editor for Mr. Scotford's contact details. As to the joys of this month, I sincerely hope they start on page 1!

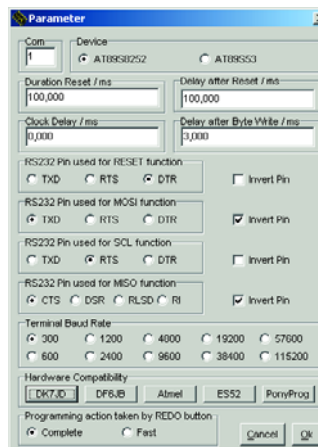
Flash Micro Board vs. fast PC

Dear Elektor staff — I have been using your 89S8252 Flash Micro Board (December 2001, Ed.) for about two years with great pleasure, having managed to link it to a couple of applications like A/D, D/A and system controls.

However since starting out with the project (in 2002) I've had recurring problems with the downloading of programs. After a few experiments it transpired that my 2.8-GHz PC did not work properly with the MicroFlash utility, whereas an old 433-MHz machine worked a treat. A few days ago I repeated the test with the same result: communication problems when downloading programs from the fast PC. Is a workaround available?

Bram Vooy's (Netherlands)

We were surprised to read of your problems considering that thousands of Flash Micro Boards have been sold since December 2001. There is a solution: use a utility called ATMELISP, you can



find it at, among others, www.modul-bus.de/mbnews/mbnews02/isp.htm.

Open the 'parameter' menu in the top left-hand corner of the screen; next select the COM port and then DK7JD.

(Mr. Vooy's has since advised us by email that this solution worked perfectly, Ed.)

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Lost & Found

Dear Editor — A short time ago, a friend brought to me a power supply which, he said, I had made for him some years ago. Frankly, I has no recollection of so doing but at is bore all the hallmarks of my mechanical handywork, I accepted that what he said was true.

He had connected the PSU the wrong way around to a battery. It no longer worked; would I repair it?

Clearly, it was an EE project. But when was it published? The only clue was the code mark on the PCB. I sent this to you and asked if the year of publication, at any rate, could be given.

Within days, a received a reply by email giving the year, date and page number. I looked up the article and have been able to repair the damage (blown track and a

projection diode shorted). Again, thank you for your excellent service. I continue to enjoy your magazine and like the new format.

Edward Benson, G3MUX

Credit is due to our Editorial Secretariat who traced the PCB number (980024-1) to the respective article ('Variable Power Supply', March 1998). Anyone can do this, however. Finding past articles by production number, PCB and/or software item number has been a standard feature of our EIT (Elektor Item Tracer) for over 10 years as well as of the search engine implemented in our year volume CD-ROMs as of 2003. Both products should prove extremely useful to owners of complete year volumes of our magazine. The EIT starts at 1985, the CD-ROM engine at 1996.



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